Sacramento River Temperature Task Group (SRTTG) Meeting
Thursday, May 26, 2016 | 1:00 pm – 2:30 pm

MEETING SUMMARY

Participants:

- Craig Anderson, FWS
- Matt Brown, FWS
- Charlie Chamberlain, USBR
- Vadim Demchuk, SWRCB
- Josh Israel, USBR
- Liz Kiteck, USBR
- Dan Kratville, CFW
- Duane Linander, CDFW
- Ron Milligan, USBR
- Joe Pisciotto, CDFW
- Diane Riddle, SWRCB
- Jeff Rieker, USBR
- Jason Roberts, CDFW
- John Rueth, FWS
- Rich Satkowski, SWRCB
- Jim Smith, FWS
- Stacey Smith, USBR
- Brycen Swart, NMFS
- Thuy Washburn, USBR
- Mike Wright, USBR
- Mike Harty, Kearns & West (Facilitator)

Note-taking:

- Gia Brazil, Kearns & West
- Briana Seapy, Kearns & West

Action Items:

- USBR will put the raw Shasta profile data online.
- USBR will consider consolidating and integrating upper-system (e.g., Trinity and Whiskeytown) air and water temperature information into the current set of SRTTG update materials.
- USBR will consider including Jellys Ferry in the temperature graphs.
- USBR will add Keswick and Trinity to monthly storage level information.
- Jim Smith will confirm the FWS Red Bluff Office as the June 23 SRTTG meeting venue by June 10.

Key Discussion Topics with Summary of Outcomes and Agreements

Fishery Update (see handout: Aerial REDD Counts Table)

CDFW reported on redd counts and carcass surveys. CDFW observed 15 carcasses and 2 redds (not unusual) through May 23 during their weekly surveys. The primary purpose of these surveys is to locate the most downstream redd and identify carcasses to determine more accurately where the fish are in the river. FWS noted that it is still early in the spawning season (there will be another month) and it takes 10-14 days after spawning for a fish to become a carcass. Consequently it is premature to

project anticipated spawning numbers. The carcass survey process entails gaffing and marking carcasses every two days, noting both new and marked carcasses and any changes in location. Typically, spawning females do not move far from redds since they are protecting their nests. The mark recapture methodology assumes an equal likelihood of finding a marked versus unmarked carcass.

FWS reported on brood stock collection. FWS has been trapping natural and hatchery origin fish since March and has collected 20 natural origin females and 8 natural origin males. Of captured hatchery origin fish (51 females, 174 males), 14 two-year-old male jacks were kept due to low natural origin male capture rates. FWS has spawned four females and four males and has 14 females and 18 males still available. Male fish may be used more than once for spawning. FWS is not trapping every day, and the target is to catch 100 broodstock fish (50 male: 50 female). FWS is also trapping juvenile fish, but winter run juveniles will not be caught until July. The numbers of natural origin broodstock collected are much lower than in past years, and trapping usually slows in May with few fish caught in June; these numbers suggest a relatively poor outlook for total spawning activity.

FWS reported positive juvenile responses at Clear Creek to the first of three spring pulse flows (these occur every other week). Pre-pulse flow snorkel surveys indicated that fish were already in Clear Creek, but it is still too early to predict how large the run will be. According to trap data, Steelhead and redds did not move out during the pulse flows.

Hydrology & Operations Update

(See handouts – also available on CVO's webpage: Mean Daily Water Temperatures; Redding 10-day Forecasted Air Temperatures; Sac River Gage Temp Plot and Air Temp Plot; Lake Shasta Isothermal Baths Plot; Lake Shasta Current TCD Configuration)

USBR reviewed system water temperatures and specified that CVO is targeting ~52° F at Keswick and will be changing gate configurations accordingly. CCR is ~53° F; the cloud cover from the recent storm help maintain a low temperature, which was coincidental with the gate change.

Lake Shasta isothermal profile is from May 16. Data show the volume of 48° F and colder water is stabilizing, indicating the lake has stratified and therefore that data in the May temperature model run are more reliable.

FWS requested that the isothermal bath information be made available online (particularly for Whiskeytown). USBR agreed and will need to determine where to put it on the website.

The Shasta TCD configuration handout shows where water is being released. On May 9, a middle gate was opened, and on May 12 an upper gate was closed in an effort to achieve 52° F at Keswick. This gate configuration was not achieving this outcome, so on May 16 USBR opened a second middle gate.

Actions:

- USBR will put the raw Shasta profile data online.
- USBR will consider consolidating and integrating upper-system (e.g., Trinity and Whiskeytown) air and water temperature information into the current set of SRTTG update materials.

May Temperature Studies

(See handouts: May 90% Temperature Model; Temperature Control Point – Daily Average Temperature 7DADM)

USBR reviewed the May 90% Temperature Model run, with an estimated 9,000 cfs for June and 10,000 cfs in July and August, utilizing the maximum hot and dry L3MTO parameters. Keswick was modeled at 52.5° F, Clear Creek at 54° F, and Balls Ferry at 56° F. This model run includes a 1.3° F modification from Keswick to CCR. The model was optimized for cold water storage and volume through the summer season. Note that with this model run, opening of the side gates is pushed back to October. Model outputs were used to inform mortality estimates for August through October of 5.8% and 7.1% based on USBR and FWS estimates respectively. NMFS noted that running model scenarios with an additional 0.5° F added to the August through October temperatures would be prudent, because during these months the temperatures most often exceed compliance. Model sensitivities show that a 0.5° F increase in temperature can increase fish mortality by 50%. Jellys Ferry is not currently included in the model, but FWS noted it may be valuable to include it in temperature projections.

CDFW requested that USBR provide an operations forecast with monthly releases and storage expectations to promote understanding of what outflow and export operations are necessary to achieve target temperatures. There is not yet an operations forecast that accompanies this model run. USBR acknowledged the potential value of forecasting some operational parameters (e.g., diversion, etc.), particularly for the upper system, but suggested that the operations forecast conversation likely belongs in a different forum such as the SWIM Team meetings.

Actions

- USBR will consider including Jellys Ferry to the temperature graphs.
- USBR will add Keswick and Trinity to monthly storage level information.

USBR contrasted temperature plots for Keswick and Clear Creek with a 55° F target line and a 7 DADM line. Gate changes intended to achieve the 52° F target at Keswick took several days to realize water temperature decreases, and the only days that CCR dropped below the 55° F target corresponded with low air temperature days with significant cloud-cover. To meet 55° F at CCR, Keswick will need to be kept well below 55° F or air temperature will need to be below 55° F. The fishery agency requested USBR to continue to manage water temperature at ~52° F at Keswick until target clarification is received from the SWIM Team around June 2. USBR plans to not exceed 8,000 cfs in releases unless a continuous temperature increase at Keswick requires additional cold water flow. USBR cautioned the SRTTG that during this interim period, cold water resources are

being depleted at a faster rate than is indicated in the current temperature model run which targets water temperature at Keswick around 52.7° and a Keswick release of 9,000 cfs. Maintaining 8,000 cfs releases and a cooler temperature target of ~52° at Keswick strays from this last temperature model run and will continue to diminish the cold water pool at a faster rate than is currently being modeled.

Next Meeting

The next meeting of the SRTTG is scheduled for Thursday, June 23 at 1pm. Pending confirmation, the next SRTTG meeting will be held at FWS, Red Bluff. USBR's CVO office in Sacramento will serve as an alternate meeting location.

Actions:

- Jim Smith will confirm the FWS Red Bluff office as the June 23 SRTTG meeting venue by June 10.